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ABSTRACT

In contrast to traditional linguistic analysis, a model based on the empirical agent is presented and tested. A text is regarded as an intentionally produced cognitive process. The analysis has to take the agent (perspective) into account to facilitate an adequate processing of its objectives (viewpoints). Moreover, the model is surface-oriented and assumes that the cognitive relevance of an utterance is defined by the dynamics of the text production and not by artificial criteria. The model has been tested on responses to questionnaire items constructed by a multinational industry. The responses were produced by 35 randomly selected workers (mechanics) from England, Italy, Sweden, West Germany, and the United States; seven subjects were chosen from each country. The differences were tested for the power of normal curve test of P(sub 1) equals P(sub 2) via arcsine transformation at a(sub 1) equals 0.05. By agent control of the question-response relationship, differences in coherence could be demonstrated. English and Swedish workers showed a significantly higher coherence with the perspective of the industry, whereas Italian, German, and American workers assume their own agent function in their response behavior. (TJH)

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The Controlling Function of the Agent in the Analysis of Question-Response Relationships

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Abstract

In contrast to traditional linguistic analysis, a model based on the empirical Agent is put forward and tested. A text is regarded as an intentionally produced cognitive process. The analysis has to take the Agent (perspective) into account in order for an adequate processing of its Objectives (viewpoints) to come about. Moreover, the model is surface-oriented and assumes the cognitive relevance of an utterance to be defined by the dynamics of the text production and not by artificial semantic criteria. The model has been tested on responses to questionnaire items constructed by a multinational industry. The responses were produced by 35 randomly selected subjects from England, Italy, Sweden, West Germany, and the United States. The differences were tested for power of normal curve test of $P_1 = P_2$ via arcsine transformation at $\alpha_1 = .05$. By Agent control of the question-response relationship, differences in coherence could be demonstrated. English and Swedish workers showed a significantly higher coherence with the perspective of the industry, whereas Italian, German, and US workers take up their own Agent function in their response behaviour.

The following presentation aims at discussing a novel approach to language analysis. A frame of reference will first be given, which connects to traditional linguistic discussions in the sense that the examples are fabricated. In the description of the qualitative difference between the traditional analysis and the one proposed, the examples are taken from natural text, that is, verbal utterances produced in a natural situation. The working material is Swedish, to which a literal translation into English is given.

The Subject in the Linguistic Context

A central notion in linguistic analysis of language is subject. The subject may be of three kinds, logical, grammatical, and psychological. (The grammatical category formal subject will not be referred to here.) The logical subject is defined according to semantic criteria, e.g., the one who acts in the clause. The analysis of grammatical subject is based on syntactic-morphological criteria and may be identified as that about which something is said. For example, adjectives and some verb forms are inflected in congruence with their grammatical subject. The psychological subject is bound to the initial position of the clause and is said to stand for the psychological attention. The variability of the notion subject is illustrated by the following three Swedish examples:

Forskarna	diskuterade	medvetandet	(1)
(The researchers	discussed	consciousness)	
logical grammatical psychological			
Medvetandet	diskuterades	av forskarna	(2)
(Consciousness	was discussed	by the researhers)	
grammatical psychological		logical	
Medvetandet	diskuterade	forskarna	(3)
(Consciousness	discussed	the researchers)	
psychological		logical grammatical	

Example (1) is a kernel sentence, whose main components are realized in exact correspondence with the model, SVO. This means that the interpretation, the deep structure, coincides with the syntactic organization, the surface structure. Example (2) is a passive transformation of (1). The task of a transformation is to reform a deep structure to a surface structure without changing the deep structure, which carries the cognitive meaning of the sentence. This is marked in (2) by the logical subject. Thus the deep structure of (1) and (2), and the surface structure of (1) are identical, while the surface structure of (2) is different. Example (3) is the result of a transformation in which the object has been topicalized and the subject has been degraded. The initial element now is only a psychological subject, while the grammatical subject has followed the logical according to criteria that are not transparent. There is no syntactic-morphological criterion that motivates the analysis. The inflected form of the verb is the same after the topicalization.

In the absence of manifest criteria for identifying the " true " subject in sentences like (3) some other basis of interpretation than the cognitive has to be considered, that is, presuppositions. This means that the linguistic context plays a part for interpretation, as does also the linguistic intuition. If the sentence is to be analyzed as isolated from previous ones, that is, presuppositions are inadequate means, then the analysis on (3) should be conceived such that the logical and grammatical subjects both are analyzed a according to semantic criteria. A pure syntactic analysis does not seem possible. Obviously it has to be denied that consciousness may be a subject in a semantic or syntactic sense. The primary basis for this conception is our common sense of the " objective world ", which tells that consciousness is something abstract, which cannot be acting and thus nor perform anything that could be called discussing. Any objections from the poet or the introspecting novelist would not be acceptable, because everybody knows that those text producers deal with fiction. The conception of consciousness as a true subject is simply counterintuitive.

One foundation for this semantic position is case theory (Fill-

more, 1968). This theory defines which cases can be realized for types of verbs represented in case- or argument frames, which are part of the lexicon. The bearing argument for case specification is the logical distinction between Animate and Inanimate. Thus the frame for the active transitive verb discuss specifies the subject to Animate and its case is called Agentive or Agent. It is likely that consciousness would be classified as an abstract Inanimate, which implies that its case name must be looked for on the next higher level, probably Objective or Object. Several case theories exist, underlining the fact that any unambiguous knowledge of the world cannot be referred to. It is also clear that the analysis tends to be obstructed in relation to the abstractness of the language level. The difficulties lie in the requirement of interpretation, that the deep structure sense must be tested against the surface structure. It would totally change the situation if the linguist could control the producer of the utterances and analyse his/her subjectivity with objective instruments. Existing methods are based on context free sentences in order to function optimally for objective analyses, which has as its consequence that the linguist's own subjectivity is slipped into the analysis. This methodology is also applied on texts but is no easy way depending on the amount of combinations to represent.

Intuition is a central concept in theoretical linguistics. One could say that the collective meaning hierarchies which semantics provides for the language elements constitute the stereotyped intuition, that is, a frozen convention. The task of linguistics sofar has been to establish rules for the way in which the convention is used in language perception and production. Only when the language connotations are followed, the meanings of utterances will be correctly interpreted by the language community. Thus language as convention is a central label, too. But at the same time hardly anyone today would argue that human language is something else than a natural phenomenon, which grows with every person's development.

The concept of natural language and research related to it has attracted special attention because of the existence of formal languages, computer languages. Within artificial intelligence in par-

ticular, it seems important to stress that natural language (as opposed to artificial) is simulated. The entire computer line in language research has come very close to an invalidation of the difference between living and non living systems (B. Bierschenk, 1986; Bierschenk & Bierschenk, 1986 a). AI researchers (Winograd, 1983) have caused many linguists to act as if they believed that an elegant procedural solution of a sentence analysis, a so called parsing, is the explicit explanation of the human interpretation process (cf. Dresher & Hornstein, 1976). It now seems as if the procedural sequencing of formal analysis has become convention in the description and explanation of the way in which people pick up verbal information. Sofar no serious discussion goes on about the counterintuitive in equalizing naturalness with conventionality (cf. Pereira & Warren, 1980), as if a natural behaviour could not exist under the conventional surface. We rather should ask ourselves if naturalness is not discovered and lifted up the best way when the convention is known.

The linguistic model to be presented here constitutes a reformulation of this question into an assumption. It is a model in which consciousness is the true governor. The primary prerequisites of the model are the following:

1. Language and text are expressions of the intention (Agent) of somebody acting, and cannot be isolated from this point of reference.
2. The surface structure reflects the cognitive relevance directly.
3. The cognitive relevance is defined with reference to the Agent, and not to any objective world criteria.

Expressions of the Agent in Natural Language

In the continuing text, examples will be given from authentic material in which an official of the Swedish public sector gives his view of his work situation in a natural discourse. The text, which has been analyzed in its entirety (Bierschenk & Bierschenk, 1986 c) begins with the following sentence:

Titta på hur inställningen är idag (4)
(Look at how the attitude is today)

The formal analysis shows that the sentence contains two verbs, each of which requires a subject. The attitude is the subject of the clause beginning with how, whereas any subject of look has not been expressed. The conventional analysis method assumes that an imperative sentence like this is the result of a transformation from a statement like You shall look. This means that we have to invent a logical subject, which may be you in the natural situation. The person referred to by you is assumed to be the person who is being requested to act by the verb and can therefore be specified as Agent. The object of the looking is the clause that follows. But how to interpret it? The verb is does not denote anything active, so the attitude cannot have the same status as you. It is not an Animate either, rather an Objective. The verb is is called a copula, connecting a nominal with its attribute. The interpretation of the clause should be that it is identical with the attitude today. By that the clause is no clause.

A problem that remains to be solved concerning the correct analysis of the real situation is that the factual reference of you must be unambiguously identifyable. The interviewed person makes the following utterance further on in the discourse:

Man måste alltså, om man tar det politiska jobbet, få
(One must thus , if one takes the political job , get)
jobba med frågor t ex i ditt bostadsområde, som
(to work with matters e.g. in your living area , which)
jag överhuvudtaget känner att jag berörs av. På det
(I on the whole feel that I am effected by. In this)
sättet kan du skapa ett engagemang som du sen kan
(way can you create a commitment which you then can)
föra vidare till större frågor.
(carry further to bigger matters.)

It seems to be an unsurmountable task to specify when the factual referents of the personal pronouns coincide and when not. Instead of assuming that the speaker intends to refer to particular individuals, it is more fruitful to assume that he mixes the pronouns because any individually different Agents do not exist in his mind. He takes the others' perspective and presumes that they would do the

same regarding this theme of discourse. Several I-, you-, and one-variables take the same standpoint. Thus only one I-referent defines the text. With this view we do not need to presuppose that the Agent of look is some you with a factual referent but that, instead, any you might take the same standpoint as the Agent, as for example the reader who was not present at the moment of production. The Agent is determining the perspective. By taking the Agent function into consideration in the analysis of the expression, we are not dependent on a deep structure testing. And, after all, that is the way the text functions in perception. That which acts is the intentionality of the Agent.

It is very likely that the use of verbs may be seen as a similar textual phenomenon. It is logically impossible that the verb look can be followed by something as abstract as it really does. But despite that the verb is unconventionally chosen, it functions adequately, that is, as a bridge between the Agent and that which he wants us to focus upon, his viewpoints. So why would we need to presuppose that is in a natural context would have a strictly logical meaning? It is more natural to regard it as a bridge by means of which the Agent lets the attitude act towards today. The Agent is the subordinated factor through which the viewpoints of the text are described and related. Each time the Agent uses a verb it is an expression of an intent to shift the perspective. The shift is manifested in what will be termed textual agents. The attitude is the first textual agent through which the Agent comes into view.

The textual agents are explicitly present in the text in such a way that every clause has an explicit textual agent or a copied one. The Agent is implicitly present and is introduced into the text by certain particular formulations. The convention lying in the syntactical or morphological variation is the key to the presence of the Agent. But not any variation. Four prototypical formulations reveal the Agent, namely (1) the imperative, which has been discussed, (2) the direct question or similar formulations operating by indicators termed clause openers, (3) the passive, and (4) the topicalized formulation with preposition as operator. The distinguishing of the Agent (perspective) and the Objective (viewpoints)

(I. Bierschenk, 1984 a) may be exemplified as follows:

(X) Titta på hur inställningen är idag (5)
((X) Look at how the attitude is today)
A a O(A a O

Varför (X) ska jag (X) hjälpa kommunen (6)
(Why (X) shall I (X) help the municipality)
Sen
(Then) A a O A a O

Folk tas in som gisslan här någon gång (7)
(People are taken (X) in as hostage here some time)
O a A O
när det behövs (X)
(when it is needed (X)
O a A

På det sättet (X) kan du (X) skapa ett engagemang (8)
(In this way (X) can you (X) create a commitment)
A a O A a O

Every verb (a = action) implies a complete A-O relation (Bierschenk & Bierschenk, 1976). In (5) the A-O of the subordination is copied up into the former clause, at the same time as it constitutes an independent relation. The examples (6) and (8) show how the Agent is copied down to keep the perspective constant. In (7) the morphological variant of the verb gives the information that the Agent shall be marked. Concerning the identification and differentiation of the O-component, see I. Bierschenk (1984 b). A contrastive analysis of the imperative (5) was the point of departure for the discussion (4). The following discussion will concentrate on the other three.

In terms of transformational grammar, the finite and infinite verb have the same subject and therefore the surface structure is regarded as a transformation. This type is called EQUI-NP deletion. A grammatical analysis of the direct question presupposes that a permutation has operated between the subject and the finite verb

and that a question morpheme by means of some transformational stage would be the marker for the place of the deep structure subject. A grammatical analysis has no other possibility than relying on syntactic positions for determining the categories. The syntactic-morphological variation is identified by a so called positional scheme, which became one of the descriptive instruments of structural linguistics. However, this scheme should not be understood as a Kantian schema but as a frame (B. Bierschenk, 1981; I. Bierschenk, 1984 a), that does not allow functional variation. Table 1 presents the difference between statement and question (6) when arranged into the position scheme valid for the main clause in Nordic languages (Diderichsen, 1962).

The positions are arranged into fields, underlining the physical orientation of the model. The positions showing variation are the fundament and the nexus subject. The fundament may be a subject or an adverbial, which, again, demonstrates that some kind of semantic specification is presupposed. In the case of a Yes-No question the fundament is empty, while by Wh-question it is filled with the Wh-element (clause opener in the present model). The statement shows that the subject is to be found in initial position. Teleman (1962, p 46) interprets Diderichsen's description of the fundament as a placeholder where certain constituents may be moved " from their normal position ". The normal word order characteristic of the state-

Table 1. Positional analysis of statement and question according to Swedish word order

Fundament	Nexus Field			Content Field		
S / A	v	s	a	V	S	A
I	shall		(not)	help	Y	(again)
Why	shall	I		help	Y	
	Shall	I		help	Y	

Note. v = finite verb, s = nexus subject, a = nexus adverbial
V = infinite verb, S = object, A = adverbial complement

ment with the subject in the fundament would then be the result of a transformation from the deep structure. However, Diderichsen does not talk about transformations, and it is incorrect to discuss the realizations of positions in process terms, because it blurs the model. The advantage of the position scheme in linguistic description is due to its character of control instrument. The observation that certain constituents sometimes shift their position may correlate with various extralinguistic factors but cannot be explained by them.

The function of the fundament as a cue to a correct placement of different clause constituents according to the prescribed order in the scheme is indisputable to anyone who has tried. Its similarity with the psychological subject (1, 2, 3) is obvious. Because of its forming function it lies beyond a theoretical description, since any semantic description of the initial position seems impossible. For instance, what similarity is there between Why and I in Table 1?

A position scheme is static. The physical basis of the model may be expressed as (I. Bierschenk, 1984 a)

$$S \rightleftarrows V \leftarrow O \qquad (9)$$

The object determines the statement, that is the predicate. Any responsible subject is not supposed to have influence on the statement but only to be associatively linked (nexus) to it. The model reflects the fact that, historically seen, the wills of the gods (omens) have been the only possibility of humans to state something and, consequently, to understand something about their world (B. Bierschenk, 1986). With consciousness of the personal responsibility the subject could be expressed in language, which distinguished the environment from the consciousness of it. In physically based models of science, any subject is not allowed to enter into the description of the environment. This view is convention in linguistic analysis, too. There exists independence between subject and predicate. All verbal expressions are analyzed as predicates, that is, as if no responsible " expressor " existed. The AaO model the way

it is described in B. Bierschenk (1984) and Bierschenk & Bierschenk, (1986 b) brings out the responsible Agent through the functional relationship between the components:

$$A \rightarrow a \rightarrow O \qquad (10)$$

A functional analysis prerequires a steering mechanism to represent the dynamic and process-oriented aspects of natural language. This mechanism gets its expression by the verb. The AaO model is a structural schema in the true sense. This means that even though the components are not always manifested, they are discoverable through the verb, since they are always present. Example (7), the passive formulation, gives the information that the schema is realized in the OaA order by the passive marking morpheme of the verb.

The passive is generally conceived of as one of the most basic transformations in which the deep structure object is moved to the position of the subject. The object position is filled by the subject, whose semantic meaning of Agent is marked with the preposition by. Agent deletion may afterwards be applied, by which the new expression implies an Agent in final position. It shall be recognized in spite of unnormal position. Thus Agent marking is morphological in a double sense, while the syntactic criterion is subordinated. When applied on (7) the following change in formulation might be implied:

Kommunen tar in folk som gisslan här (11)
(The municipality takes in people as hostage here)
någon gång när kommunen behöver det
(some time when the municipality needs it)

Folk tas in som gisslan här (av kommunen) (12)
(People are taken in as hostage here (by the muni-)
(cipality))
någon gång när det behövs (av kommunen)
(some time when it is needed (by the municipality))

This example (12) is atypical in connection with traditional exemplification. Usually examples are of the type John kissed Mary → Mary was kissed by John. The natural text example indicates that an Agent cannot be directly generated through the by-insertion after a passive verb. In both clauses there are formulations which make the Agent phrase unexpected or almost ungrammatical. The localizing adverb here may be said to be used with the purpose of specifying the Agent to the organization in whose offices we find ourselves at the moment. The general pronoun it (formal subject) gives the impression that the organization in an abstract sense is referred to and not any distinguishable person. It is a bit difficult to even add an Agent to this formulation.

In recommendations concerning written composition in school, it is often said: Write in the active mood. Passive formulations are difficult to be successful with, since they easily lead to wrong presuppositions of the Agent. On the university level the advice is the opposite: Write in the passive mood. A scientific conduct requires distance between text and Agent. The passive is used in all contexts in which the Agent should not be made conscious for the listener/reader. The obligatory insertion of the Agent that is made by perspective analysis (7) does not imply a complementary addition of a surface structure. It is not a question of filling a position. The (X) is a controller of the point of reference of what is being said so that the viewpoints can be discovered. The placement of (X) therefore is unimportant.

It deserves to be pointed out once again the relationship between the lexical meaning of the verb and its textual function. The verb shall not necessarily be associated with the Agent, despite that the passive marking morpheme ties the two components to each other. The convention is a supporting factor here but does not invite to a literal interpretation. As in the case of pronouns, (X) can in one and the same text refer to more than a certain particular source. But here, too, it is fruitful for the analysis to regard the variable (X) as the component which controls that the perspective is invariant. The information that people are taken in as hostage (7) is mediated as the Agent's own perspective, but also as

the perspective of the municipality which he represents. The statistic analysis of the perspective of the interviewed person has demonstrated, however, that the Agent's and his organization's perspectives are incoherent. As a consequence of the experience of functional fixation (Bierschenk & Bierschenk, 1986 c, p 14), the Agent's cognitive process ends up in liberation. This person has left the public sector to start his private business.

To conceive of the passive formulation as a transformation does not seem natural (Broadbent, 1977). The passive has very few instances in the present text material, which otherwise is richly varied. Some grammatical marking of the Agent with by is totally absent, so an example construction does not make any sense. Example (12) gives a hint that the passive should be regarded as complete in its surface structure formulation and that only one morphological criterion is applicable to identify the Agent. In a construction with a passive verb combined with a grammatical Agent the by-phrase should be conceived as a subcomponent of the Objective, termed Ground (I. Bierschenk, 1984 b) and denoting a point of orientation. The prototypical function of the preposition is to be generally orienting.

The formulation in example (8) is the result of a topicalizational transformation (3), to speak in traditional terms. Thus topicalized formulation denotes the surface phenomenon only. The term is connected with the topic-comment distinction in discourse analysis. Topic has a fundament status syntactically and marks the given or known information in the discourse while comment denotes the new or unknown information. An even more marked distinction is that the determination of topic can only be made context dependently, that is, in the referential development of the discourse.

To identify a topic in a kernel sentence (1) is uninteresting if not impossible. The initial prepositional phrase has a topic-like function and is fairly similar to the psychological subject. But to be identified, it needs not be regarded as an adverbial phrase topicalized from the deep structure, and no morphologically marked reference to known information from preceding clauses is needed either. The preposition is the direct cue to the presence

of the Agent. It contextualizes the Agent, which means that the Agent emerges against a background of some empirical experience or lets the textual context form the frame of reference for the continuing development of the process.

The process develops after the verb where the function of the prepositions is to differentiate between viewpoints and decide their cognitive function. Experience builds on this differentiation process. But all experience does not become integrated so that the Agent can formulate it conceptually. The contextualization (8) is an expression of this kind of non-integrated experience. In the analysis of texts of considerable length, the differentiation of the Agent component brings out more information. The imperative and the passive formulations thus express the unconcealed, undifferentiated Agent who encourages the listener/reader to make experiences. The direct clause opener formulation is an expression of Experience (6), since without experience one cannot whether ask questions nor relate observations in time. The prepositional topicalization is named Context. Both components are subcomponents of the Agent.

Expression of Integration

There exists a systematic difference between the way in which integrated and non-integrated experience get their verbal expression. Where the Agent is present in the formulation, integration is not expressed. If instead a textual agent is formulated, this implies a higher degree of abstraction, which means that an integration may be formulated. The abstraction is the prerequisite of the formulation of the conceptual (cognitive) function of the Agent. In the text, the following example can be found:

Jobbarna i två grannföretag skiter (13)
(The workers in two neighbour companies don't give)
i varandra
(a damn in each other)

What has been verbalized between the textual agent and the verb is a postpositional attribute, grammatically explained as a reduced predicative in a relative clause, that is, who are to be found in

two neighbour companies. The relative clause formation implies a formulation in which the subject in a subordinate predicative is deleted when it is identical with the subject of the main clause. The copula, which should be as contentless and static as possible, underlines the spatial sense of the preposition: neighbour companies contains the workers. This semantic representation remains after the reduction according to the principle that the deep and surface structures are semantically symmetrical.

Transformation is here used in the sense of movement or transfer, where the change is of a positional nature. When used in a functional sense, however, transformation denotes a change from differentiation to integration. By that, change is related to degree of abstraction, which is asymmetric, and not to a raising of hierarchical level. Moreover, a functional transformation is not derivable. The orientation expressed by the preposition when functioning in the differentiation process is changed to the specification of the textual agent concept. Thus the textual agent should be conceived as a non-divergent whole, that is, a fact, whereas the elements in a process produce information that might give rise to facts. That a text is characterized as meaningful depends on the textual transposition that the elements undergo. In this process, which we may call the cognitive process, experiences and contextualizing expressions have the function of differentiating it. By considering the Agent's way of differentiating his standpoints, the structure in his viewpoints becomes specified.

A rule system has been developed (Bierschenk & Bierschenk, 1986 b) and algorithmically tested (Bierschenk & Bierschenk, 1986 c). Ten rules out of a total of fifty identify and differentiate the Agent component, that is, five process rules and five supplementation rules.

Experiment

This study considers the textual relationship between a question item and its unrestricted responses in a questionnaire investigation. This relationship differs markedly from a dialogue situa-

tion in that an interaction cannot take place. The responding person has no possibility to share the intention and takes very easily a passive role towards the questioning person. Of course this effect depends to a high degree on the methodology as such, which implies that the subject is objectified and treated as independent of some identity. But the reponse behaviour is also conditioned by the way in which the question has been verbally formulated. This factor has to be accounted for when the subjects are given the freedom to answer with personal formulations but respond curtly and reactively nevertheless. Many questionnaire constructors are unaware of the fact that by a certain formulation they may steer the subject to formulate itself coherently with the constructor, that is, to give its view from the perspective of the constructor, something that needs not be the purpose of the investigation. With this background the following hypothesis has been formulated:

Hypothesis: Response behaviour is an expression of a subject's objectified perspective of itself.

Method

Subjects. The subjects in this study make up a random sample of 35 mechanics drawn from an investigation of about 3000 persons from Europe (England (E), Italy (I), Sweden (S), West Germany (G)) and the United States (US). The workers are employed by a Swedish multinational industry. The analysis builds on the responses of 7 persons from each country. The numer is based on the circumstance that only 7 Swedish responses were usable. Therefore the same number of persons was randomly sampled from the other four countries.

Materials. The responses used are taken from a questionnaire distributed to the 3000 mechanics by which they have answered questions about their work situation. Question items nos. 4, 5, and 6 in the form have so called unrestricted response alternatives and concern the workers' conduct towards information related to their job function. The responses to the three items taken together have been analyzed elsewhere (Bierschenk & Bierschenk, 1987). For this study question item no. 5 has been selected. It is the most general one of the three and includes the other two contentwise. Further, the responses are the most varied to this question. It reads as

follows in the four languages represented. (The industry is responsible for variations due to translation.)

Question 5

E/US Do you have any suggestion how getting information to you can be improved?

I Hai qualche proposta su come migliorare il sistema di trasmissione delle informazioni al personale d'officina?

S Har du några idéer/förslag på hur informationen till dig kan förbättras?

G Haben Sie einen Vorschlag, wie man die Nachrichtenübermittlung zu Ihnen verbessern kann?

The ways in which the mechanics take up the questions are exemplified with one response item from each country. The responses may be longer than what they appear here.

Response examples

E Yes, by telephone

US All mechanics used to receive bulletins for our looseleaf binders

I Di farle più semplificate (To make them simplier)

S Utbildningstimmar på arbetstid (Instruction hours during work time)

G Ich bin mit der Nachrichtenübermittlung zufrieden (I am pleased with the news transfer)

Design and procedure. In the following analysis the question-response relation is regarded as textually bound. Responses without an A-component are treated as subordinated to the question in the sense that it constitutes a conceptualized O-component. Its A-component is thereby assumed to be identical with the Agent of the question, which is the operational definition of coherence here. Responses formulated with an A-component are regarded as expressions of integrity. To illustrate the method by which the Agent component has been controlled, Table 2 gives the question in its English version together with the responses quoted above. The use of the functional schema shows some systematic variations. The presence of the Agent implies the infinite verb form. The subordination needs not, as in this case, be marked with to(di). The response Send a few

Table 2. Analysis of question-response relations by Agent control

A	a	O
(X)	Do	you have any suggestions ...
Yes,(X)	(a)	by telephone
All mechanics	used	to receive bulletins ...
Di (X)	farle	più semplificate
(X)	(a)	Utbildningstimmar på arbetstid
Ich	bin	mit der Nachrichtenübermittlung ...

well trained instructors into the field namely gets the same analysis. A left-out verb always implies an Agent, while finite verb covaries with a textual agent. A verbless response is assigned to the O-component regardless of whether it starts with a preposition or not. The principle here is that no textual element can be regarded as a contextualization (8) or an integration (13) as long as a verb does not mark a perspective. The response Yes, conditioned by the question type, has the same function as to, that is, to be the start operator of the response. In all the responses in fact a Yes is implicit. Thus as single response to the question, Yes would have been nonsense information. The responses of question no. 5 have been analyzed according to the schema presented in Table 2. Only the first conceptualization of the responses has been of interest, since the respondent's way of taking up the question is observed initially.

Results

34 out of 35 subjects have given a response to question no. 5. The missing response belongs to the English text. For a comparison between the responses, the proportion coherent responses of the number of responses per country was measured. The result is presented in Table 3. As the Table shows, there is a clear difference between England and Sweden on one hand, and Italy, West Germany and the United States on the other. A test of the proportional differ-

Table 3. Textual coherence between question and responses in European and American text

Country	Proportion
England	.83
Italy	.43
Sweden	.86
United States	.43
West Germany	.43

ence at $\alpha = .05$ shows that the power of the effect size is $\beta = .87$, which is a considerable contrast (Cohen, 1969, p 183). The result shows that the English and Swedish mechanics objectify themselves when responding, while Italian, West German and US mechanics subjectify themselves, that is, they take advantage of their Agent function in their response behaviour.

Discussion

The purpose of this article has been to highlight the Agent concept as steering component in linguistic analysis of language and text. An Agent-based analysis prerequires that the text producer's intention can be incorporated into the model, which makes the model functionally operating. This has as its consequence that traditional grammar, as also its transformational variant, cannot be used to explain utterances, since they are based on a positional outlook. Further, the Agent model is surface-oriented in the sense that it is the perspective in an utterance that is directly read out of the verbal formulation. The relevance of the representation does not have to be interpreted, which is the traditional way of synthesizing, with the linguistic point of reference in semantic objective world criteria. Through a strict application of the functional operations of the model the empirical Agent's perspective on the viewpoints (O-component) developed in the text emerges.

Moreover, the analysis distinguishes the dynamic (transpositional) changes taking place in the development of text by making visible in the presentation the Agent's shifting degrees of experience. One such distinction is the direct question, in which the Agent occupies the A-component, compared to the case when an integrated concept takes the Agent's function.

When the model is used in the analysis of question-response relations this distinction becomes visible in such a way that certain responses relate to the perspective of the question (coherence) while others express an individual (integrated) perspective. The result of the analysis shows that English and Swedish workers to a considerably higher degree than Italian, West German, and US workers respond to the industry's question as if they conceived of themselves as objects in the situation, in that their perspective is coherent with that of the industry. That they do not take advantage of their Agent function should be seen as their expression of not taking up any independent standpoint. Their response behaviour points at a more frequently used habit of subordinating themselves to an authority. It is noteworthy that only England and Sweden are monarchies and have strong labour unions. It is moreover a known fact that Sweden is strongly centralized and that the subjects of this society have been used to rely on " the strong society " in matters of great concern.

Another study using this material, although for a different purpose, has shown (Bierschenk & Bierschenk, 1987) clearly distinguishable differences in mentality between these five countries. While Swedish workers show a passive conduct towards information from the industry and English workers are critical to the mediation of information, the interest to learn and to reach mastery in their jobs were typical of Italian, West German and US workers, as also their wish to contribute to constructive cooperation with their employer. Thus the analysis has confirmed the hypothesis that the taking up of an object role can be read from the formulation of a quationnaire response. The result illustrates (1) the importance of formulating question items so that the responding person will not be unintentionally steered to the objectification of himself, and

(2) the possibility to discover by means of Agent control the psychological reality as it is formulated directly in language.

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